

AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

Electronic Warfare Support (ES) Direct Support to Ground Forces

by

Lisle H. Babcock, Major, US Air Force

A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

Advisor: Dr. Bert Frandsen, DEW

Maxwell Air Force Base, Alabama

April 2009

Report Documentation Page		Form Approved OMB No. 0704-0188
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.		
1. REPORT DATE APR 2009	2. REPORT TYPE N/A	3. DATES COVERED -
4. TITLE AND SUBTITLE Electronic Warfare Support (ES) Direct Support to Ground Forces		5a. CONTRACT NUMBER
		5b. GRANT NUMBER
		5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER	
	5e. TASK NUMBER	
	5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Air Command And Staff College Air University Maxwell Air Force Base, Alabama		8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited		
13. SUPPLEMENTARY NOTES The original document contains color images.		
14. ABSTRACT he advancement of aerial reconnaissance drastically changes the face of war and is a keystone to modern day operations. Without the use of real-time aerial reconnaissance, the lack of near real time, actionable information severely hampers the effectiveness of the U.S. military. Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR) make up the backbone of battle management and situational awareness that is required in todays wars. The major limiting factor in aerial reconnaissance is the ability to provide real-time, actionable intelligence directly to the ground forces, in an expeditious manner. ES platforms are low-density/high-demand (LDHD), and due to the unending desire and requirement for ISR support, there are not enough assets. As a result, strategic planners divvy out the ES platforms to support the ISR mission in a prioritized manner. Maximizing the capabilities and decentralized execution of electronic warfare support (ES) platforms will enable a more effective, real-time dissemination of pertinent actionable intelligence directly to the ground commander, in support of irregular warfare. This paper outlines how the advancement of reconnaissance has changed not only the tactical nature of warfare, but also the way the United States and her allies wage war. This paper discusses numerous authors and their thoughts on how reconnaissance has changed the face of war, and then applies thought on how to better utilize reconnaissance to fight war today. The paper covers recommendations to increase the direct support roles of ES platforms. Finally, the paper summarizes the recent trends in reconnaissance missions and forecast how the ES role will affect current and future conflict.		
15. SUBJECT TERMS		

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT SAR	18. NUMBER OF PAGES 28	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Disclaimer

The views expressed in this academic research paper are those of the author(s) and do not reflect the official policy or position of the US government or the Department of Defense. In accordance with Air Force Instruction 51-303, it is not copyrighted, but is the property of the United States government.

Contents

Disclaimer	ii
Abstract.....	iv
Section 1: Prelude	page 1
Section 2: Introduction.....	page 3
Section 3: Historical Reconnaissance Perspective	page 5
Section 4: Direct Support	page 9
Section 5: Recommendations	page 12
Section 6: Conclusion.....	page 14
Section 7: Postlude	page 15
Endnotes	page 20
Bibliography	page 21

Abstract

The advancement of aerial reconnaissance drastically changes the face of war and is a keystone to modern day operations. Without the use of real-time aerial reconnaissance, the lack of near real time, actionable information severely hampers the effectiveness of the U.S. military. Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR) make up the backbone of battle management and situational awareness that is required in today's wars. The major limiting factor in aerial reconnaissance is the ability to provide real-time, actionable intelligence directly to the ground forces, in an expeditious manner.

ES platforms are low-density/high-demand (LDHD), and due to the unending desire and requirement for ISR support, there are not enough assets. As a result, strategic planners divvy out the ES platforms to support the ISR mission in a prioritized manner. Maximizing the capabilities and decentralized execution of electronic warfare support (ES) platforms will enable a more effective, real-time dissemination of pertinent actionable intelligence directly to the ground commander, in support of irregular warfare.

This paper outlines how the advancement of reconnaissance has changed not only the tactical nature of warfare, but also the way the United States and her allies wage war. This paper discusses numerous authors and their thoughts on how reconnaissance has changed the face of war, and then applies thought on how to better utilize reconnaissance to fight war today. The paper covers recommendations to increase the direct support roles of ES platforms. Finally, the paper summarizes the recent trends in reconnaissance missions and forecast how the ES role will affect current and future conflict.

I. Prelude

“Therefore, determine the enemy’s plans and you will know which strategy will be successful and which will not; agitate him and ascertain the pattern of his movement. Determine his dispositions and so ascertain the field of battle.”

- Sun Tzu
The Art of War

02Nov070630L: It is an early morning in the Oruzgan Province, Afghanistan. The sun is starting to rise, with the chill of winter beginning to set in. Snow is falling several clicks north of Jaguar 01’s current position. Jaguar 01 is the combat controller embedded with the Army Special Forces (SF) team operating in the area. They are closely coordinating and conducting missions with members of the Afghan National Army (ANA). Existing intelligence is warning that a major attack by the Taliban is likely in the area. The insurgents are looking to have one final, successful campaign prior to recapitalizing during the winter months. Intelligence points to a Taliban plot to overrun a Forward Operating Base (FOB) in the area, killing all American and Afghanistan military members and eradicating the local base of operations.

It has been a long night for the combined SF-ANA team. They are traveling back in a 20-vehicle convoy to their FOB. They have just finished with a mission, attempting to win the hearts and minds of the Afghan people. The birds initiate the first signs of a new day as they alight into the sky, while the SF-ANA team surveys a local village half a click to the east. The sun breaks the mountaintops as a rocket propelled grenade (RPG) impacts one of the Humvees. A huge explosion engulfs the vehicle, and the soldiers within. Suddenly, the peaceful morning has turned into an ambush from hell. The *wadi* they are travelling through has become a deathtrap. Numerous, disparate avenues of enemy fire converge on their position. Bullets, RPGs and mortars begin to rain down on the convoy. The SF-ANA teams quickly dismount, and begin

returning fire on the insurgents, but the noose of the Anti-Coalition Militia (ACM) ambush begins to tighten.

Jaguar 01 is immediately in contact with the FOB. The mountainous terrain hampers communications, but Jaguar 11, the primary point of contact at the FOB, understands the gist of the need. A flight of F-15Es, Dude 03/04, launches from Bagram Air Base, and at faster than the speed of sound, they rocket southbound to provide close air support (CAS) to the friendly position. The Theater Operations Center (TOC) at the FOB notifies the Combined Air Operations Center (CAOC) that Jaguar 01 has issued a troops-in-contact (TIC). The TOC dispatches all available resources to support the beleaguered allied forces.

02Nov071000L: Time is against the SF-ANA team. The insurgents are coordinating the attack using multiple avenues of fire, and the Taliban are using a shoot-and-scoot technique, not staying in any one location for more than ten minutes. To make matters worse, the *wadi* is wet this time of year, and so the convoy has numerous Humvees stuck in the mud and grass. The F-15Es arrive on station to provide close air support, and Jaguar 01 is in charge of directing the friendly fires. The air-ground coordination falls back on the expert training perfected in the fires of combat. Dude 03 and Jaguar 01 pass CAS 9-lines and targeting solutions back and forth. Jaguar 01 targets Dude 03 against the first sets of Taliban, but the enemy's ground attack continues to build.

Then the bomb hits the radios waves: "Jaguar 11, Jaguar 01, be advised that we have one American and one ANA, KIA." An American and an ally have been killed. During this entire incident, an American Intelligence, Surveillance, Reconnaissance (ISR) platform has been flying overhead, collecting the information on the enemy, their locations, and their actions. Not once

during this unfortunate event did the ISR platform provide any direct support to Jaguar 01, Dude flight, the SF team or the ANA soldiers.

II. Introduction

The advancement of aerial reconnaissance drastically changes the face of war, and is a keystone to modern day operations. Without the use of real-time aerial reconnaissance, the lack of near real time, actionable information severely hampers the effectiveness of the U.S. military forces in combat. Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR) make up the backbone of battle management and situational awareness that is required in today's wars. The major limiting factor in aerial reconnaissance is the ability to provide real-time, actionable intelligence directly to the ground forces, in an expeditious manner.

Maximizing the capabilities while decentralizing execution of electronic warfare support (ES) platforms, enables a more effective, real-time dissemination of pertinent actionable intelligence directly to the ground commander, in support of irregular warfare (IW). This paper outlines the advancement of reconnaissance and its changing effect to not only the tactical character of warfare, but also the way the United States and her allies wage war. This paper discusses numerous authors' thoughts on how reconnaissance has changed the face of war, and then applies thought on how to better utilize reconnaissance to fight war today. The paper covers recommendations to increase the direct support roles of ES platforms. Finally, the paper summarizes the recent trends in reconnaissance missions and forecast how the ES role will affect current and future conflict.

The background and significance leading to the research problem and the potential contributions of my research are that theater strategic planners have replaced the traditional ES

roles with strategic level, ISR roles. ES platforms, such as the RC-135V/W, EP-3, U-2 and RC-12, provide signals intelligence (SIGINT) to supply the ISR community the information needed to support strategic goals. Planners treat ES and ISR platforms and missions as mutually exclusive issues, when in actuality ES platforms can accomplish simultaneous tactical level ES and strategic level ISR roles. Joint Publication 3-13.1 describes ES as the subdivision of electronic warfare (EW) that involves

Involving actions tasked by, or under direct control of, an operational commander to search for, intercept, identify, and locate or localize sources of intentional and unintentional radiated [electromagnetic] (EM) energy for the purpose of *immediate* threat recognition, targeting, planning and conduct of future operations. ES data can be used to produce signals intelligence, [and] provide targeting for electronic or destructive attack (emphasis added).¹

When proprietary personnel force ES platforms to conduct exclusively strategic level missions, the ES platforms' mission capabilities are severely handicapped. To make matters worse, when ES platforms acquire actionable intelligence that they can transmit directly to the ground commanders' representative, but proprietary individuals and/or policy prevent them from doing so, the lack of communication places the ground personnel in undue harms way.²

Proprietary personnel are those staff members or planners that work in the operations center, who have never been operators or have not been operators for a substantial length of time, *and* what authority and power they have garnered for themselves or their community they are extremely reluctant to part with. Proprietary personnel think solely of their own "rice bowls" and needs, and do not realize that by agreeing to give up a portion of their authority and centralized control, they not only improve their own capabilities to accomplish their goals, but also empower the Joint community to maximize their effectiveness to accomplish the mission.

Who tasks or controls the collection assets, what the planners task them to provide, and how the assets will support those tasked requirements determine the distinction between ISR and

ES assets. An operational commander will control and task ES assets to provide direct support via combat information to the ground commander. “The purpose of ES tasking is immediate threat recognition, targeting, planning and conduct of future operations, and other tactical actions such as threat avoidance and homing. However, the same assets and resources that are tasked with ES can simultaneously collect intelligence that meets other collection requirements.”³ ISR planners treating ES platforms as exclusively strategic level collectors, and not tactical intelligence providers that can also simultaneously support operational and strategic level requirements, perpetuate an apparent conflict between doctrine roles of ES and ISR missions.

ES platforms are low-density/high-demand (LDHD) force enablers, and due to the unending desire and requirement for ISR support, there are not enough assets to fulfill all tactical, operational and strategic level requested support, especially if taken as independent and mutually exclusive missions. As a result, strategic planners divvy out the ES platforms to support the ISR mission in a prioritized manner. Once that process has taken place, the theater planners then program the employment of those assets into the air tasking order (ATO) cycle. Upon execution, the planners direct the crewmembers aboard the ES platforms not to deviate from predetermined orbits. The reason provided is that the planners have maximized orbit location for the pre-allocated target sets of the day. If only five of those targets are active, the planning branch of the operations center appears to not want the tactical experts onboard those same platforms to make any real-time changes to maximize capabilities of which only the onboard tacticians have insight into.

III. Historical Reconnaissance Perspective

Following the conclusion of WWII, an era of possible Armageddon began, based on the different ideologies of the United States and the Soviet Union. This differing in principles resulted in the possibility of a new and more terrifying war. With the buildup of nuclear weapons on both sides of the world, and the political stigma of mutually assured destruction, knowledge of exactly what the enemy was doing, where the weak points of the country lie, and how best to defeat the enemy's defenses, was of utmost importance. Before Strategic Air Command (SAC) could commit the armada of B-52s, intercontinental ballistic missiles (ICBMs), and submarine-launched nuclear weapons into Russia to destroy their armed forces might, the U.S. military had to find the locations of those defenses and resources, and then determine the best way to destroy them. Relatively unknown others had to tread those unfriendly airways first.

It was the "reconnaissance crews—the intelligence collectors—that got the measure of the enemy well before the attackers [could] arrive. And they did so, as they always have and always will, under the shroud of rigidly enforced military security."⁴ Signals intelligence, or SIGINT, played a key role during the Cold War. These included "radio and telephone communications, television pictures and radar beams" to name a few.⁵ Strategic Air Command (SAC) tasked ISR assets to collect against the USSR during the Cold War. Their job was to "search for, intercept, identify, and locate or localize sources of intentional or unintentional radiated EM energy."⁶ The purpose of SIGINT collection is to accumulate a variety of information about our nation's adversaries to save American lives in time of war by supplying the means to nullify the enemy threat. The role of ISR assets during the Cold War was to perform sensitive reconnaissance operations (SRO) support. There was no need to provide direct support to anybody on the ground during the Cold War area, so the ISR assets only provided information to support the strategic level intelligence community needs by collecting SIGINT.

With the end of the Cold War and the aftermath of Operation Desert Storm, US civil and military authorities began downsizing the US military. Since Desert Storm, the world of reconnaissance has had to change to keep pace with world events. The highly classified missions of the ISR platforms became more public following their use in the conventional warfare of Desert Storm. The times of covert ISR missions conducted in complete secrecy and autonomy changed with the fall of the Soviet Union. With that fall, the funding for classified missions had to be justified in Congress, and the highly classified assets of the Cold War had to adapt to the evolving mission set of ES, or die on the proverbial stove-piped strategic level ISR vine. As a result, those classified missions had to come either out of black world operations and provide the direct support missions needed in a fluid, Joint environment, or face possible extinction. More importantly, the ES role took center stage to the ISR mission because the need to provide real-time, actionable intelligence directly to Air Force and ground forces conducting missions in support of Desert Storm was required. The changing mission set of strategic-level ISR assets collecting SIGINT exclusively for future war, forced those same platforms and crews to evolve their tactics to support the real-time, tactical, direct support to operational and tactical level forces. The mindset and operational need forced the old ideology of collection for collection sake to change to support the ever-changing needs of the Joint community. Thus, the advent of the Electronic Warfare Support mission emerged.

Mission needs dictated the modification of the ES mission during the Gulf War because of the integral role of ES platforms as force enhancers. Over the next ten years, the continual interaction with other Joint assets solidified the importance of the ES mission, and fleshed out the interoperability and synergistic effects that the ES platforms bring to the fight. This trend towards ES and away from purely strategic SIGINT collection incorporated the entirety of ES

platforms capabilities, instead of stove piping the data collected and secretly disseminating the intelligence through strategic level channels.

Following the end of major combat operations in Iraq in 2003, an atmosphere of centralized control and centralized execution began to infiltrate the operations arena. No longer did the tactical operators flying the reconnaissance missions over the skies of Afghanistan and Iraq have autonomy on tactical or operational decisions. The proprietary individuals and/or policy located within the operations center had a valid point. Those individuals were afraid that aircrew making decisions directly supporting the ground commander might jeopardize the larger scheme of maneuver. The potential for all-out chaos when ground personnel declared a troops-in-contact situation could result in an overabundance of support to the ground personnel.⁷

The main problem with this concept is that the special instructions (SPINS) already provide direction on the roles and responsibilities of aircrew during execution of the ATO. Planners provide the crews with given direction on best orbit placement based on the collection priorities for that day's mission. In such instances as when a time sensitive target (TST), combat search and rescue (CSAR) or TIC emerged, the SPINS authorize aircrews to change orbit placement and orientation to support the higher priority mission. When aircrew made the deviation in support based off these standing SPINS, the proprietary personnel would interject criticism on a regular basis. Over time, this criticism turned into directive action and the changing or disregard of standing SPINS. The proprietary personnel had complete control of aircraft timing, collection, and dissemination.⁸

Examples of this centralized execution directives from the proprietary personnel are prevalent with the ES aircrews deployed in support of OIF and OEF. One such instance took place in March of 2007. The aircrew aboard an RC-135V/W was conducting a mission in the

northeastern region of Afghanistan. The collection deck for that day entailed 150 possible targets. After numerous hours on station, the crew decided to shift the orbit location's northern point ten miles to allow for better collection of the six active signals. The aircrew coordinated with the airspace control authority to alleviate any possible traffic conflicts. This new position increased the crew's ability to collect the signals of interest more effectively, while still enabling the crew efficient support to the remainder of the collection deck.

Within fifteen minutes of the new orbit location, the senior intelligence duty officer (SIDO) at the operations center belittled the crew for moving their orbit location without permission. When the crew explained how moving the orbit actually maximized coverage, the SIDO told the crew that the operations center leadership would not approve any movement without prior consent. The SPINS authorized the reconnaissance crew to fly within a designated airspace container, and yet the mouthpiece for the proprietary personnel felt that a person on the ground 1500 miles away could make a better decision on tactics employment.

During a tactics conference that same month in the theater, EW personnel in attendance raised the issue of trying to control an ES platform from two thousand miles away, in a centralized control, centralized execution strategy. The proprietary personnel that attended the conference stated that aircrew did not know how to optimize their sensor collection and should leave orbit placement up to the planners. The proprietary personnel then informed the audience that operators were not capable enough to make tactical decisions that affected the course of the missions they participated in, due to their lack of the "Big Picture." They also stated that the crews did not have the authority or wherewithal to provide real-time, actionable intelligence directly to the ground forces, in an expeditious manner, even though the SPINS provided direct

guidelines on priority of effort and the crews trained extensively to the ES direct support mission set.⁹

Fortunately, during the conference out-brief with the combined forces air component commander (CFACC), the general agreed with the operators that the flexibility to adapt from a canned ISR mission to support an ES direct support was imperative. It was the CFACC's position that the SPINS will continue to reflect the need for the ES crews to adapt real-time to the ground situation, based off the specified priorities, and that the crews need only inform the proprietary personnel at the operations center of their actions. Despite the guidelines and CFACC approval, the proprietary personnel in the operations center continue to harass the crews, and the approved changes continue to disappear from the SPINS, only to be readdressed at the next tactics conference and SPINS meetings.

IV. Direct Support

“The most important tactical skill Airman will need in the 21st Century will be the ability to rapidly acquire, develop, and share information across the Joint Force, and at all levels of warfare”

- Lt Gen David A. Deptula, DCS/ISR
"The Indivisibility of ISR"

ES platforms have capabilities that are applicable to tactical ground commanders as well as theater level commanders. ES crews train to provide real-time data analysis and dissemination during their ES direct support roles. ES is reliant upon on the “timely collection, processing, and reporting of various intelligence and combat information to alert EW operators and other military activities about important intelligence collected in the EM spectrum.”¹⁰

Direct support missions that ES platforms provide include immediate threat recognition, provide pertinent data required for effective planning and proper performance in future

operations, and support operational and tactical level events through the direct support action of providing threat avoidance, location and targeting. Planners should allocate ES assets to respond to the urgent operational requirements. However, the same assets and resources that planners task to an ES mission can simultaneously collect intelligence that meets strategic and operational level collection requirements.

The direct support provided by ES assets can simultaneously collect data for intelligence purposes meeting immediate tactical requirements, while also supporting the strategic level ISR intelligence requirements. This is because the intelligence collected and disseminated real time by the crews onboard the ES asset is processed by the appropriate parts of the intelligence community for further exploitation upon landing, supporting the ISR requirements.¹¹ According to AFDD 2-3, “Analysis requires that data from all the intelligence disciplines be brought together to the right people on a timely basis. This has proven in the past to be a substantial challenge because of technical problems associated with sharing data and security requirements.”¹² Crewmembers on ES platforms are privy to highly classified, real-time intelligence. Classification protocol authorizes the ES crewmembers to provide the required level of fidelity at the classification level needed to prosecute the mission. Crewmembers have the ability to provide this needed intelligence over either clear and classified mediums which enables the ground commander to receive the imperative situational awareness on a timely basis, in accordance with the security requirements. Added to this, when friendly forces are in immediate danger or harms way, SPINS authorize ES crews to circumvent the security requirements in order to keep the friendly forces alive. Doctrine refers to this as imminent threat warning (ITW), or the directed threat warning that the threatened individual needs to save life or limb, regardless of classification level.

One of the benefits provided by ES platforms is their ability to collect and identify enemy SIGINT actions and then provide dissemination capabilities via voice, data links and chat.¹³

These multiple level communication capabilities revolve around the ability to provide:¹⁴

- 1) UHF/VHF/HF/SHF voice communications
- 2) SATCOM communications
- 3) Link-16 data link connectivity
- 4) Information Broadcast Service-Interactive (IBS-I) connectivity
- 5) Collateral Secret internet relay chat
- 6) Top Secret / Sensitive Compartmented Information (TS/SCI) internet relay chat

This communication suite provides the ES platforms with the ability to identify and locate potential insurgents, talk to ground personnel that are in harms way, coordinate with the TOC, while data linking the enemy's location to either fixed or rotary wing aircraft, all the while chatting back to the operations center as events unfold. The ability of ES platforms to be a link between tactical level and operational level forces, as well as provide real-time analysis to battlefield situations, provides connectivity and battle management awareness indicative of the ES mission set. This is imperative to provide direct support to the ground forces.

Doctrine also supports the idea of providing real-time dissemination of pertinent actionable intelligence directly to the ground commander, in support of irregular warfare.

According to AFDD 2-3,

Intelligence personnel should think differently and be proactive in their collection, analysis, and planning by breaking from the traditional warfare mindset when engaged in IW. Intelligence personnel should provide decision makers with accurate, relevant, and timely intelligence...This intelligence helps US forces gain insight to the local populace, while helping identify enemy networks, their motivations, objectives, leadership, intentions, and locations.¹⁵

ES crews provide the ground commander the ability to cut the time associated with the kill chain, due to their ability to real-time analyze the SIGINT. ES crews do not need to send their data

back exclusively to propriety personnel at the operations center for them to analyze first. The timeliness of the useful information changed from seconds with the ES crews, to hours and days when propriety personnel demand that all reconnaissance and intelligence data is funneled through them, despite the timeliness demanded for by imminent threats. The ability for ES crews to collect, analyze and disseminate timely intelligence plays a large role in their ability to provide battle management and situational awareness to the ground commander. “Timely and accurate intelligence encourages audacity and facilitates identifying and exploiting opportunities,”¹⁶ which cannot be accomplished when the operators flying the ES and ISR assets must channel all of their pertinent data through propriety personnel.

Parts of the battle management that ES platforms provide include the ability to augment packages on any variety of mission sets. ES platforms train and equip to find, fix, cross-cue, identify and disseminate pertinent information, tailored to the needs of the ground commander.¹⁷ The main limitation for support is the apportionment of ES and ISR forces, and the application of their differing capabilities to support the ground scheme of maneuver. When the ground commander requests a specific platform versus a needed capability, the propriety personnel try to maximize quality support, while still getting the maximum quantity of collection capabilities. Planners base the disposition of the LDHD ES platforms off a hierarchical supply and demand, apportioned according to Joint needs and requirements.

Where planners and operators fall into a contest of wills is when propriety personnel take the quality and quantity of support out of the operator’s hands, and the airborne crews conduct the ISR mission at the sacrifice of the other potential missions. The best way to allocate the ES platforms is for the propriety personnel to provide the guidelines and then allow the crews to provide direct support to both the ISR and ES missions based on the pre-established

guidance and requirements. Added to this, the proprietary personnel need to understand and implement the airpower tenant of centralized control of ES asset planning, with decentralized execution of the ES mission.

V. Recommendations

ES and ISR crews and proprietary personnel will all be more effective if each applies their maximum potential to supporting the ground commander. To accomplish a more effective and efficient means of providing both the direct support to the ground commander and support the operational and strategic ISR requirements, both the operators and proprietary personnel need to apply several fixes to the handling of ES / ISR missions and roles. These include:

- 1) *Attend to the airpower tenant of centralized control, decentralized execution for ES missions.* Operation center planners must assign ES platforms to the ISR mission sets, yet allow the tactical operators to make informed, decentralized execution-oriented decisions without fear of reprisal. This *modus operandi* proved effective during the first year of both Operations Enduring Freedom and Iraqi Freedom. Over the past 5 years, proprietary personnel have degraded the airpower tenant substantially by being reactive and possessive of the kingdom of information, versus being proactive and supportive of the ground commanders needs.
- 2) *Promote ingenuity and creative thinking in ES mission execution.* Provide a geographical area, target sets and initial orbit recommendation, while allowing the aircrew to adapt orbit timing and placement as changing battlefield conditions require. George S. Patton said it best when he stated, "Never tell people how to do things. Tell them what to do and they will surprise you with their ingenuity."

- 3) *Provide pertinent data to facilitate direct action support.* Operations center planners need to provide updated names, locations, tactical frequencies and chat room addresses for the TOCs, FOBs, and JTACs/CCTs in any theater of operation that the ES platform is conducting missions.
- 4) *Comprehend the difference and similarities of ES versus ISR.* Treat ES platforms as direct action support capability that also enables the ISR process. ES platforms identify, analyze, locate and disseminate SIGINT information in support of the ISR requirements. The ES assets should not be limited to exclusively conducting strategic-level ISR missions when simultaneity maximizes ES capabilities and provides maximum support to the operational and tactical levels of war.
- 5) *Education of the masses.* There must be a free flow of information and education between the ES/ISR platforms and the ground commander's representative, whether that is the JTAC in the field or the commander at the TOC. When it becomes an ad hoc liaison between ES platforms and pertinent ground personnel, the effectiveness of coordination and execution takes weeks to master. This is only after both sets of assets are coordinating real time in theater. One successful example of cross-education is that when the CCTs come through Al Udied AB, the RC-135V/W crews and CCTs in brief and out-brief each other before and after successful deployments. This tabletop discussion has maximized the cross-cue capabilities, and minimized the time required for successful cooperation in the field.
- 6) *Improve thorough home station training for ES/ISR crews.* To successfully provide direct support, ES and ISR crews must be able to provide the pertinent information that the ground personnel need. They need to be proficient in CAS check-in procedures, what

data is required to fulfill a CAS 9-line and where an ES asset can incorporate pertinent data and ES crews need to train stateside with the same type of personnel they will deploy in coordination with.

VI. Conclusion

ES assets provide the maximum capability to both the forces on the ground and the strategic through tactical-level ISR requirements, while conducting simultaneous ES and ISR roles. It is an intrinsic capability of ES assets to provide coincidental operational and tactical level support. The responsibility to provide the information, support and enhanced ES capability is not only on the aircrew that fly the ES assets, but also on the part of the proprietary personnel. Those personnel must let loose the reins of control and trust the tactical level operators to maximize the support required by both the operational requirements and tactical level ground personnel in harms way.

If ES and ISR crews do not train to provide direct supporting actions while still supporting the ISR requirements, their ability to maximize the support at the operational and tactical levels of war diminish severely. When ES trained crews conduct strategic-level ISR only missions at the total expense of the ES direct support mission, as soon as the ES crews do need to plan and execute missions that require force packaging and tactical level support, they are unable to maximize their capabilities. Force packaging missions take place on a regular basis in theater. The premise of force packaging is to place an ES asset in coordination with a battle management asset, such as an E-8 JSTARS. These platforms coordinate their actions in support of a task force to perform the given mission set. When planners marginalize the ES crews to the ISR role

exclusively, those same ES crews are unable to provide support the truly ES mission set due to lack of proficiency and ability. This must not happen.

ES aircrews train to conduct surveillance and reconnaissance and turn the data into real-time, actionable intelligence, threat information and potential ITW, that they can provide directly to the ground forces, in an expeditious manner. The mission of electronic warfare support does not relegate the crews to only collecting the intentions of the enemy, but also for trend analysis and possible follow-on action. The real-time information that can warn a convoy about an impending ambush, the direct support to a combat controller that is under direct fire from multiple locations, and the ability to refine the identification and location of insurgents so that air and ground strikers have a more efficient kill chain, make up the tactical and operational significance of electronic warfare support. To deny one capability for the sake of another, limits the fighting capability of dedicated assets, and places friendly personnel in harm's way needlessly.

VII. Postlude

02Nov071130L: Then the bomb hits the radios waves: "Jaguar 11, Jaguar 01, be advised that we have one American and one ANA, KIA." Insurgents have just killed an American soldier and a Coalition ally, and their bodies trapped in the disabled Humvee. While one ISR platform had been flying overhead, collecting the information on the enemy, their locations, and their actions, an identical platform conducting the ES mission is flying up the corridor over Pakistan, into Afghanistan. The ISR asset provides a detailed situation report to the ES platform that is replacing it. This ES crew has all the data that the ISR asset has collected to include the active enemy frequencies, and they have gleaned their own situational awareness from listening

to the radio chatter from Dude flight and the combat controller. This entire time they have also been in chat with all appropriate parties.

The ES crew receives a new chat message from the operations center, cancelling the troop-in-contact and informing all parties that the insurgents have ceased the firefight. Because this ES crew flies with the names and tactical frequencies of all the JTACs in the area, they are able to provide real-time, direct support to the ground. This is extremely important because one of the members of the crew collect additional ambush communications in the immediate vicinity of the *wadi*-trapped SF and ANA team. This “closed TIC” is in actuality right in the middle of an operational pause, as the insurgent leadership regroupes for another coordinated offensive. The crew immediately developed an optimal aircraft orbit to maximize Imminent Threat Warning (ITW) and reconnaissance support for Jaguar 01 and the SF-ANA team.

02Nov071145L: “Jaguar 01, Python 76, be advised that we have enemy activity in your vicinity. Standing by with data.” The immediate response from Jaguar 01 is to stand by. Python 76 then proactively informs the operations center via chat, that they are moving their orbit placement to support the SF-ANA team, since the insurgents have not left the area, and the TIC is not over. Python 76 is simultaneously providing information directly to the local theater operations center (TOC) that manages the ground forces and directs the requests for air support. Over the next fifteen minutes, Jaguar 01 works with Dude 03 and 04 to prosecute targets that they pick up with their own capabilities. “Python 76, Jaguar 01, go with your data.” By the time that Jaguar 01 directs Dude 03 to investigate the suspected enemy location provided by the ES asset, the highly mobile insurgent team has dispersed to a new ambush site.

02Nov071200L: The representative on the operations center floor that is the real-time coordinator for ISR missions, informs Python 76 that they are authorized to remain on station to

provide support to the beleaguered SF-ANA team. Over the next three hours, Python 76 provides eight additional enemy locations to Jaguar 01. Jaguar 01 uses the information to have Dude 03 and 04, and eventually 05 and 06, to investigate the enemy locations with their advanced targeting pods as the ES asset collects on the enemy activity. On each of those events, the members of Dude flight provide positive enemy indications, confirming the SIGINT collected insurgent activity. Jaguar 01 and the members of Dude flight, work in concert to finalize the requirements of the CAS 9-line.

The crew soon located several Anti-Coalition Militia (ACM) locations south and east of Jaguar 01's position and passed ITW calls via multiple radio and data networks. Within minutes, it was clear that the nearest ACMs detected Jaguar 01's static position and were setting up the ambush. The crew of Python 76 relayed this information to the JTAC. The JTAC then directed the efforts of Dude flight to Positively Identify (PID) the nearby ACMs with Full Motion Video (FMV) pods to confirm their intent. After achieving PID, F-15Es dropped munitions killing two ACMs involved in the first ambush.

Now that Jaguar 01 and Dude eliminated the immediate threat, the SF/ANA team was able to extract their two comrades from the vehicle, move to a safe distance and destroy the vehicle, preventing future use. Once this task was complete, the ground team continued their return to the FOB. As Python 76 continued to support the ground team, they built a ground picture of the team's surrounding area and their route back to the FOB. In addition to monitoring Jaguar 01, Python 76 correlated current intelligence with historical and pre-briefed data to determine the locations and intent of the enemy. More ACMs lay in wait, attempting to not only ambush the mobile ground team, but later that day, the FOB as well.

Once mobile, Jaguar 01 received numerous updates from Python 76 about another group of 12 to 15 ACMs tracking the ground team's movement. Based on these updates, the JTAC again directed an F-15E strike that neutralized at least five ACMs, foiling yet another ambush. Desperate to retaliate, the ACMs began to set up a mortar position close by, and again Python 76 was able to queue the JTAC and F-15Es for a preemptive strike, this time not only eliminating enemy personnel, but destroying enemy munitions and attack capability. Following the foiled mortar strike, the enemy's overall ambush plan started to unravel. Python 76 was able to determine the enemy commanders' fixed location, which in turn, led to not only a guided munitions drop, but an F-15E strafing run that took out an ACM compound and an estimated 12-15 enemy personnel.

In total, the ES direct support mission resulted in providing effective, real-time dissemination of pertinent actionable intelligence directly to the ground commander, in support of irregular warfare. The final tally for the day included an estimated 45 to 60 enemy KIA. The enemy KIA weakened the insurgents in the area so drastically, that the warning of a likely, major attack by the Taliban in the area did not take place. More importantly, the SF-ANA team returned safely to their firebase that was now safe from the insurgent overrunning them.

02NOV071500L: Python 76 remains on station, requesting the ability to extend coverage time to continue the support of the SF-ANA team. The operations center representative denies the request, as a different ES asset is coming on station, already fraggd to continue the support. The ES crew of Python 76 push northeast in the airspace of Afghanistan, to provide the required support to the strategic level ISR mission they are fraggd to support for the next six hours. The crew is ready to support simultaneous ISR and ES mission sets, should another TIC or higher priority mission trump the collection deck requirements to support the ISR requirements.

Throughout the sortie, the ES crew not only provided extensive intelligence support, but also worked various air refueling options through the operations center to extend their presence on-scene. Additionally, Python 76 acted as a radio relay from the JTAC and TOC at the FOB, providing real-time status updates regarding the status of the TIC and helped coordinate the resupply efforts for the embattled American and Afghanistan troops. The crew also utilized interconnectivity, Information Broadcast Service-Interactive (IBS-I) and Link-16 to keep the operations center and Air Sector Operations Center (ASOC) apprised of the situation on the ground, sending vital real-time updates to decision-makers hundreds, if not thousands, of miles away from the FOB and the TIC.

After the operations center directed their return home, the crew of Python 76 learned that the ACM forces were so scattered and disoriented by the day's events that they had to abandon the planned ambush of the FOB. Because of the crew's efforts, not only the ground team, but also the embedded FOB troops were safe from attack. Due in part to the crew's flexible employment of the RC-135's diverse Command and Control/ Electronic Warfare (C2/EW) capabilities, many American and Coalition soldiers' lives were saved and the remains of one American and one Afghani were recovered and returned to their families with honor and dignity. The ES crew of Python 76 proved to be the single source for vital, life-saving intelligence. The crew's diligent application of voice and data communications updated theater leadership on the developing situation, enabling effective fulfillment of the mission with the command and control reach-back to ensure proper support. Should the crew of Python 76 placated the proprietary personnel in the similar fashion of the identical American ISR platform that supported the original TIC for the first four and half hours, this true story's end would well have ended in a much different manner.

Endnotes

¹ JP 3-13.1, I-4.

² Interview with a Combat Controller staff sergeant from a Special Tactics Squadron, 18 March 2008. (unattributed interview)

³ JP 3-13.1, vi.

⁴ Burrows, By Any Means Necessary, xvi.

⁵ Burrows, *ibid.*, xvii.

⁶ JP 3-13.1, I-11.

⁷ This statement is based on conversations the author participated in during multiple deployments to the theater of operations during the years 2006 through 2007.

⁸ MSgt Chris Regan (763ERS), interviewed by the author, 18 March 2008.

⁹ This event took place during a mission that the author was a participant. Upon debrief of other local crews, the same events transpired on a regular basis with them as well. Proprietary personnel informed the fully capable, experienced and professional crews that they were unable to accomplish their primary roles and responsibilities without approval.

¹⁰ JP 3-13.1, xi.

¹¹ JP 3-13.1, I-11.

¹² AFDD 2-3, 31.

¹³ GlobalSecurity.org, "Intelligence Programs and Systems",
<http://www.globalsecurity.org/intell/systems/>

¹⁴ These communication capabilities are different based on the type of ES/ISR platform, but are common, basic capabilities for most.

¹⁵ AFDD 2-3, 31.

¹⁶ FM 3-07, 2-3.

¹⁷ Danskine, "Aggressive ISR in the War on Terrorism."

Bibliography

- Air Force Doctrine Document (AFDD) 2-3. *Irregular Warfare*. 1 August 2007.
- Airpower in Irregular Warfare*. HQ USAF/A9L Report. Rosslyn, VA. 25 September 2008
- Birch, Maj David R. "The Evolution of Direct Support Organization from WWII to OIF." SAASS thesis, Air University, June 2005.
- Burrows, William E. *By Any Means Necessary: America's Heroes Flying Secret Missions in a Hostile World*. London: Plume Books, 2002.
- Carson, Maj Barb. "Networked Sensors Aid Targeting." (Military Aerospace Technology Online Edition). 25 February, 2005. Sourced from: http://www.military-aerospace-technology.com/print_article.cfm?DocID=684.
- Clausewitz, Carl von. *On War*. Edited and translated by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1989.
- Danskine, Lt Col Bruce M. "Aggressive ISR in the War on Terrorism." Lecture. USAF Weapons School, Nellis AFB, Nevada, 16 June 2004.
- de Jomini, Baron Antoine Henri. *The Art of War*. With an Introduction by Charles Messenger. Greenhill Military Paperbacks. London: Greenhill Books, 1992.
- Deptula, Lt Gen David A., Deputy Chief of Staff for ISR, US Air Force. "The Indivisibility of ISR." Briefing. 10 Dec 2008.
- Field Manual (FM) 3-07, *Stability Operations and Support Operations*, 2 February 2003.
- GlobalSecurity.org. "Intelligence Programs and Systems." <http://www.globalsecurity.org/intell/systems/> (accessed 20 December 2008).
- Joint Publication (JP) 1, *Doctrine for the Armed Forces of the United States*, 14 May 2007.
- Joint Publication (JP) 3-13.1. *Electronic Warfare*. 25 January 2007.
- Liddell Hart, Basil. *Strategy*. 2nd Revised and Expanded Edition. Meridian Paperback Edition. New York: Meridian Books, 1991.
- Moncree, Jerry F. *Habu and Dragonlady: Behind the Scenes*. Paperback edition. Nevada City: Bitney Publications, 2000.
- Sherry, Michael S. *The Rise of American Air Power: The Creation of Armageddon*. New Haven: Yale University Press, 1987.

Sun Tzu. *The Art of War*. Translated by Samuel B. Griffith. With an Introduction by B. H. Liddell Hart. Paperback edition. New York: Oxford University Press, 1971.

Thompson, Wayne. *To Hanoi and Back: The USAF and North Vietnam, 1966-1973*. Washington D.C.: Air Force History and Museums Program, 2000.

Williams, Allen. "Aerial Reconnaissance in WWII Gallery." 23 Feb 2005. Sourced from: http://www.bbc.co.uk/history/war/wwtwo/aerial_recon_gallery.shtml